

KULEV, L.P.; VORONOVA, K.R.

Azo derivatives of barbituric and thiobarbituric acids and their  
physiological activity. Izv.TPI 111:30-35 '61. (MIRA 16:9)  
(Barbituric acid--Physiological effect)  
(Azo compounds)

KULEV, L.P.; STEPNOVA, G.M.; TABINSKAYA, P.F.

Substituted amides of 4-nitro-2,2'-diphenic acid. Izv. TPI 126:51-52  
'64. (MIRA 18:7)

KULEV, L.P.; GIREVA, R.N.; BELYAYEVA, A.P.

Diphenic acid esters. Part 4: Monoaryl esters of diphenic acid and their insecticide activity. Izv. TPI 126:53-54 '64. (MIRA 18:7)

KULEV, N.; BEZZUBENKO, B.

Modernization of the drive of the automatic hamburger shaper. Mias.ind.  
SSSR 33 no.3:46-47 '62. (MIRA 15:7)

1. Semipalatinskiy myasokombinat.  
(Meat industry—Equipment and supplies)

KULEV, N.

Fastening of the blades of FMSH-340 and FMSH-650 fill mixers. Mias.-  
ind. SSSR 33 no.3:48-49 '62. (MIRA 15:7)

1. Semipalatinskiy myasokombinat.  
(Mixers (Machinery)) (Meat industry—Equipment and supplies)

S/135/61/000/009/006/006  
A006/A101

AUTHOR: Kulev, Yu. I., Engineer

TITLE: One-sided argon-arc welding of thin sheet steel with least reinforcement of the weld on the reverse side

PERIODICAL: Svarochnoye proizvodstvo, no. 9, 1961, 27

TEXT: To produce weld joints without reinforcement on the reverse side, the author used argon-arc welding with non-consumable electrode, with or without filler wire and one or two high-frequency (480 cycles) ПС-100 (PS-100) transformers. Structures of 3 and 2.5 mm thick 25ХГСА (25KhGSA) and 30ХГСА (30KhGSA) steel were welded. When employing one PS-100 transformer for welding 3 mm thick 25KhGSA steel at 10 m/hr speed, 115 - 120 amps current, and 10 m/hr filler wire feed, an up to 0.4 mm deep meniscus was formed on the internal side of the weld joint. When using two parallel connected transformers for welding 3 mm thick 25KhGSA steel at 165 - 175 amps current, 16 m/hr welding speed, 16 m/hr filler wire feed and 3 mm diameter tungsten electrode, the reinforcement on the reverse side was 0 - 0.2 mm thick, and 0.3 - 0.6 mm on the external side of the weld. When producing weld joints without filler wire at 115 - 120 amps

Card 1/2

One-sided argon-arc welding ...

S/135/61/000/009/006/006  
A006/A101

current and 13 - 15 m/hr welding speed, using 2 mm diameter tungsten electrodes, a weld joint with a 0.1 mm meniscus on the internal side was obtained. The use of a copper backing plate did not affect the thickness of the reinforcement on the reverse side. The welding process with the use of a PS-100 transformer is characterized by a large penetration width of the butt on the internal side which is equal to about 70% of the external weld width, and by a smaller molten pool than in welding on d-c or a-c of power frequency. There are 3 figures.

Card 2/2

KULEVA, A.K.

34027 KULEVA, A.K. Normalizatsiya  
Zaprovok V Lyentotkachyestvye  
Lyegkaya Prom-st; 1949, No. 9 S. 22-24

SO: Letopis'Zhurnal'nykh Statey, Vol. 42, Moskva, 1949



KULEVA, A.K. / H. K.

Calculating the consumption of rubber filaments. Leg. prom. 17 no.12:  
32-35 D '57. (MIRA 11:1)

(Rubber goods)

IVANOV, V.A., kand.tekhn.nauk; KULEVA, A.K., inzh.; BYNSKIY, G.V., inzh.

Synthetic substitutes for metals. Leg.prom. 18 no.12:35-37  
D '58. (MIRA 11:12)

(Metals, Substitutes for)

KULEVA, A.K.

New ribbon looms. Tekst.prom, 19 no.1:41-44 Ja '59.  
(MIRA 12:1)  
(Looms)

KULEVA, A.K., inzh.; FILINA, N.V., inzh.

New ShP-52 and LP-53 braiding machines. Tekst.prom. 19 no.2:  
40-42 F '59. (MIRA 12:5)

(Textile machinery)

KULEVA, A.K.; FILINA, N.V.; MIKHAYLOV, N.A.

New ShP-24 braiding machine. Tekst.prom. 19 no.12:49-51  
D '59. (MIRA 13:3)

(Braid) (Textile machinery)

KULEVA, A.K.

Mechanization and automation of the basic and auxiliary  
operations in the ribbon weaving industry. Tekst. prom.  
24 no.2:56-58 F '64. (MIRA 17:3)

1. Zaveduyushchiy tekhnologicheskim otdelom Vsesoyuznogo  
nauchno-issledovatel'skim institutom tekstil'no-galantereynoy  
promyshlennosti.

KULEVA, G.V.

Fauna in the Lower Cretaceous sediments of the trans-Ural syrt and  
the middle Ileik Basin. Uch.zap. SGU 74:147-150 '60. (MIRA 15:7)  
(Ural Mountain region--Paleontology)

LEVA, I. F.

The cultivation of sugar beet in the north-western part of the USSR, 1951-52. *Izv. Vsesoyuz. inst. rybn. khoz.*, 1953. 74 p.



*KULEVA I. I.*

TSUPAK, Valerian Fedorovich, kand.sel'skokhozyaystvennykh nauk; KULEVA,  
Iraida Fedorovna, kand.sel'skokhozyaystvennykh nauk; SINYAKOVA,  
Lidiya Andreyevna, kand.biol.nauk; VOROB'YEV, P.I., red.; CHUMAYEVA,  
Z.V., tekhn.red.

[Practical laboratory experiments in plant culture] Laboratorno-  
prakticheskie zaniatiia po rastenievodstvu. Moskva, Gos. izd-vo  
sel'khoz. lit-ry, 1957. 255 p. (MIRA 11:4)  
(Plants, Cultivated)

KULEVA, I.F., dots., kand. sel'khoz. nauk; MAL'CHIKOVA, V.K., red.;  
TIKHONOVA, I.M., tekhn. red.

[Sugar beets; practices in growing sugar beets in Leningrad  
Province] Opyt vozdeleyvaniia sakharnoi svekly v Leningrad-  
skoi oblasti. Leningrad, Lenizdat, 1963. 113 p.

(MIRA 16:10)

(Leningrad Province--Sugar beets)

KNYAZEVA, T.S.; KORSHAK, V.V.; AKUTIN, M.S.; KULEVA, M.M.; VINOGRADOVA, S.V.;  
RODIVILOVA, L.A.; NEDOPEKINA, T.P.; VALETSKIY, P.M.; MOROZOVA, S.A.;  
SALAZKIN, S.N.

Possibility of using various polyarylates as insulating film  
materials. Plast. massy no.12:37-40 '62. (MIRA 16:1)  
(Acids, Organic) (Polymers) (Insulating materials)

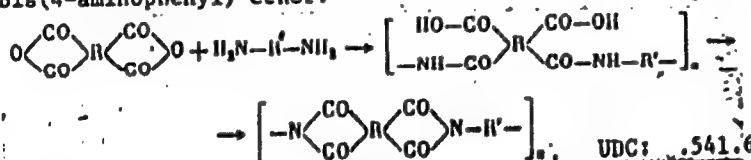
(A) L 11235-66 EWT(m)/EWP(1)/T/EWA(c)/ETC(m) YN/RM  
 ACC NR: AP6002214 SOURCE CODE: UR/0080/65/038/012/2728/2734  
 44 55 44 55 44 55 44 55 44 55  
 AUTHOR: Koton, M. M.; Yakovlev, B. I.; Rudakov, A. P. Knyazeva, T. S.; Florinskiy, F. S.; Bessonov, M. I.; Kuleva, M. M.; Tolparova, G. A.; Layus, L. A.  
 44 55 44 55 44 55 44 55 44 55  
 ORG: Institute of Macromolecular Compounds, AN SSSR (Institut vysokomolekulyarnykh soyedineniy AN SSSR) 44 55

TITLE: Preparation and physicomechanical properties of polypyromellitimide

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 12, 1965, 2728-2734

TOPIC TAGS: heat resistant plastic, fire resistant material, dielectric material, polyimide, polypyromellitimide/~~W-514~~

ABSTRACT: A study has been made of the preparation and physical and mechanical properties of a polyimide, viz., polypyromellitimide. Test results showed that the polymer may find widespread use as a heat resistant and low temperature resistant material, and is of special interest as a high temperature film dielectric. A polypyromellitimide film similar to the U.S. H-film was prepared from pyromellitic anhydride and bis(4-aminophenyl) ether:



Card 1/2

UDC: .541.6

L 11235-66

ACC NR: AP6002214

Polycondensation to the polyamido acid intermediate was carried out at 15C. Poly-Pyromellitimide films were prepared by drying solutions of the polyamido acid on glass substrates at 20—40C followed by heat treatment at 80—400C to produce imidization. Optimum preparative conditions were determined. The films were transparent, gold-brown in color, thermally stable, nonburning at up to 600—700C, unaffected by organic solvents, highly resistant to γ- and UV radiation, low temperature resistant, nonshrinking, resistant to humidity, and readily metalized. In its mechanical properties at high temperatures, the material surpasses all existing polymers. These properties can be further improved by orientation stretching, after which they approach those of glass-reinforced plastics and metals. Orig. art. has: 5 figures and 3 tables. <sup>15</sup> [5M]

SUB CODE: 11/ SUBM DATE: 08Mar65/ ORIG REF: 008/ OTH REF: 011/

ATD PRESS: 4173

60

Card 2/2

PONOMAREV-STEPNOV, N. N.; SMIRNOV, O. N.; KULEVA, R. V.

"Investigation on System with Zirconium Hydride Moderator."

report submitted for 3rd Intl Conf on the Peaceful Uses of Atomic Energy,  
Geneva, 31 Aug-9 Sep 64.

L 36081-66 EMT(m)/ENP(t)/ETI IJP(o) JD

ACC NR: AP6016300 (A)

SOURCE CODE: UR/0075/66/021/001/0046/0052

AUTHOR: Kuleva, V. M.; Popova, A. N.

ORG: Leningrad Pedagogical Institute im. A. I. Gertsen (Leningradskiy pedagogicheskiy institut)

TITLE: Use of o-nitrobenzoic acid for quantitative determination of zirconium and hafnium

SOURCE: Zhurnal analiticheskoy khimii, v. 21, no. 1, 1966, 46-52

TOPIC TAGS: hafnium, zirconium, quantitative analysis

ABSTRACT: The starting solutions of zirconium were prepared from zirconium chloride twice recrystallized from hydrochloric acid. The hafnium solutions were prepared from "experimental" grade hafnium hydroxide which was then dissolved in concentrated hydrochloric acid. In the precipitation of zirconium or hafnium the procedure was as follows. To a determined volume of a standard solution of zirconium or hafnium salt there was added a corresponding amount of concentrated hydrochloric acid to create the required acidity, and the solution was heated to the start of boiling. For each 100 ml of the final solution there was added about 5 grams of ammonium nitrate or chloride. Then,

UDC: 543.70

Card 1/2

L 36081-66

ACC NR: AP6016300

a hot 1.5% solution of o-nitrobenzoic acid was added with constant stirring. The precipitate was filtered and calcined to constant weight in a muffle furnace. The experimental results are presented in a series of figures and tables. It is shown that, for selectivity and sensitivity, o-nitrobenzoic acid is not inferior to m-nitrobenzoic acid, and that it has the advantage of a greater solubility in water and a higher ionization constant. The composition of the zirconium and hafnium o-nitrobenzoates precipitated depends on the acidity of the medium. Ti(IV), Ti(III), Sn(IV) and Sn(II) interfere with the precipitation process. In the presence of  $\text{Th}^{4+}$ ,  $\text{Fe}^{3+}$ , and  $\text{Cr}^{3+}$  reprecipitation is necessary. Orig. art. has: 3 figures and 6 tables.

SUB CODE: 07/ SUBM DATE: 22Dec64/ ORIG REF: 007/ OTH REF: 015

Card 2/2



KULEVA, V.M.; POPOVA, A.N.

Use of o-nitrobenzoic acid for the quantitative determination  
of zirconium and hafnium. Zhur. anal. khim. 21 no. 1:46-52 '66  
(MIRA 19:1)

1. Leningradskiy pedagogicheskiy institut imeni Gertsena.

KULNATOV, S.I.

Boots and Shoes - Trade and Manufacture

Construction of uppers of the shoe "Parko 2."  
Leg. prom. 12 no. 4:45 "p '52

Monthly List of Russian Accessions, Library of  
Congress, July 1952. Unclassified

KULEVATSKIY, S.

Expanding ticket sale by booking offices. Avt. transp. 41  
no.6:18 Je '63. (MIRA 16:8)

1. Zamestitel' upravlyayushchego Tambovskim oblastnym avto-  
mobil'nym trestom po passazhirskim perevozkam.

KULEVOV, A. starshiy pilot-inspektor

Some problems in methodology. Grazhd. av. 21 no.10:22 0 '64.  
(MIRA 18:3)

1. Neshtatnyy korrespondent zhurnala "Grazhdanskaya aviatsiya."

KUKOLEVSKIY, Georgiy Mikhaylovich; KULEVOVA, A.M., red.; GABERLAND,  
M.I., tekhn.red.

[Doctor's advice to the athlete] Sovety vracha sportsmenu.  
Moskva, Gos.isd-vo med.lit-ry, 1958. 188 p. (MIRA 13:4)  
(PHYSICAL EDUCATION AND TRAINING--HYGIENIC ASPECTS)

YEROFEYEV, B.V.; NAUMOVA, S.F.; KULEVSKAYA, I.V.

Initiation of ethylene polymerization by the action of a complex consisting of etherates of Grignard compounds and titanium tetrachloride. Sbor. nauch. rab. Inst. fiz.-org. khim. AN BSSR no.8:80-82 '60. (MIRA 14:3)

1. Institut fiziko-organicheskoy khimii AN BSSR.  
(Ethylene) (Polymerization) (Titanium compounds)

S/190/6/003/011/012/016  
B110/B101

AUTHORS: Yerofeyev, B. V., Naumova S. F., Kulevskaya, I. V., Mardykin V. P., Tsykalo, L. G.

TITLE: Polymerization of ethylene in the presence of the triethyl aluminum anisolate and titanium tetrachloride complex

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v 3, no 11, 1961, 1705 - 1707

TEXT: Initiators from triethyl aluminum anisolate (A) and  $TiCl_4$  (T) for ethylene polymerization have low self-inflammability. The authors studied the properties of polyethylene (PE) produced with them, and the effect of the A:T ratio on its properties. The  $Al(C_2H_5)_3 \cdot CH_3OC_6H_5$  was prepared by reaction of bromo ethyl with Mg-Al alloys (40% Al; 60% Mg in anisole). 1.0 mole/liter of A (boiling point 97 - 105°C/4-5 mm Hg) was dissolved in n-heptane. The  $TiCl_4$  concentration in n-heptane was 0.4 moles/liter. Ethylene was pressed into the reaction vessel at 12 liters/hr. At first n-heptane, after this  $TiCl_4$  in n-heptane, and then, during 1 min, A in

Card 1/3

Polymerization of ethylene in the...

S/190/61/004/011/012/015  
B.10/B101

n-heptane were added. After 20 min, PE was precipitated by means of  $\text{CH}_3\text{OH}$  with 5%  $\text{HCl}$ . The tabulated values were found under atmospheric pressure at  $30^\circ\text{C}$ . The density determined in water-alcohol mixture was 0.95 - 0.97. With increasing A:T ratio and constant T, the molecular weight of PE drops. Then, the amount of A determines the number of resulting polymer macromolecule chains. The A:T ratio was  $< 1$  in tests 5 and 1.5 in test 6. While PE obtained by means of triisobutyl aluminum and  $\text{TiCl}_4$  (Ref. 5, see below) had molecular weights of 67 000 - 940 000 and melting temperatures of  $116 - 139^\circ\text{C}$ , the molecular weights of the authors' PE were 91 000 - 316 000, the melting temperatures  $127 - 130^\circ\text{C}$ . The decrease of the molecular weight with decreasing Al compound:  $\text{TiCl}_4$  ratio observed in triisobutyl aluminum polymerization is probably due to the high excess of the former. Thus, the  $\text{TiCl}_4$  amount determines the number of resulting polymer chains. There are 1 table and 5 non-Series references. The two references to English-language publications read as follows: Ref. 2: A. Grosse, J. Mavity, J. Org. Chem. 5, 106, 1940; Ref. 5: E. Badin, J. Amer. Chem. Soc. 62, 144, 1940.

Card 2/3



Polymerization of ethylene in the...

3/190/61/003/011/012/016  
B110/B101

ASSOCIATION: Institut fizikoorganicheskoy khimii AN BSSR (Institute of Physical and Organic Chemistry AS BSSR)

SUBMITTED: December 26, 1960

Table. Ethylene polymerization.

Legend: (1) test no.; (2) amount of initiator components; (3) millimoles; (4) polyethylene yield, g; (5) molecular weight; (6) melting point, °C.

① Опыт, №	② Количество компонентов инициатора			④ Выход полиэтилена, г	⑤ Молекулярный вес	⑥ Т. пл., °C
	③ А, ммоль	③ Т, ммоль	А/Т			
1	1,23	6,0	0,21	1,37	316 000	128
2	2,47	6,0	0,41	1,98	250 000	130
3	3,70	6,0	0,62	2,60	180 000	127
4	3,51	5,0	0,70	2,34	—	—
5	4,95	6,0	0,82	2,89	91 000	130
6	6,57	4,0	1,64	2,52	91 000	130

Table

Card 3/3

S/786/61/000/009/001/006  
I065/I242

AUTHORS: B.V.Yerofeyev, S.F.Naumova, V.P.Markykin, I.V.Kulevskaya,  
L.G.Taykalo

TITLE: The dependence of the molecular weight of polyethylene  
on the  $\text{TiCl}_4/\text{Al}(\text{iso-C}_4\text{H}_9)_3$  ratio in the Ziegler catalyst

SOURCE: Akademiya nauk Belorusskoy SSR. Institut fiziko-organi-  
cheskoy khimii. Sbornik nauchnykh rabot. no.9. 1961.  
Monomery, svoystva i protsessy polucheniya polimerov.  
59-62

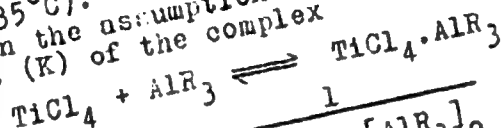
TEXT: In the polymerization of ethylene initiated by a Ziegler  
catalyst with excess  $\text{TiCl}_4$ , the molecular weight of the polyethy-  
lene obtained increases with decrease of the  $[\text{AlR}_3]/[\text{TiCl}_4]$  ratio.  
These findings disagree with the data of Badin (J.Am.Chem.Soc. 80,  
6545, 1958). The polymerizations were carried out in a glass  
vessel equipped with mechanical stirrer, reflux condenser, gas in-  
let tube and a burette for the introduction of the dissolved cata-  
lyst components. Molecular weights were determined viscometrically

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S/786/61/000/009/001/006  
I065/I242

The dependence of the molecular ...

(in decaline, at 135°C). The interpretation of the experimental results is based on the assumption of a very high value for the stability constant (K) of the complex



so that

where the subscript o denotes initial concentrations. Then the concentration (X) of the  $\text{TiCl}_4 \cdot \text{AlR}_3$  complex can be represented by the approximate expressions

$$[X] \approx [\text{TiCl}_4]_o \quad \text{for} \quad [\text{TiCl}_4]_o < [\text{AlR}_3]_o$$

$$[X] \approx [\text{AlR}_3]_o \quad \text{for} \quad [\text{AlR}_3]_o < [\text{TiCl}_4]_o$$

the component at the lower concentration being the limiting parameter. Since the degree of polymerization is inversely proportional to the catalyst concentration ( $\overline{DP} \sim [X]^{-1}$ ), the molecular

Card 2/3

S/786/61/000/009/001/006  
I065/I242

The dependence of the molecular ...

weight of polyethylene will increase on decreasing the  $[\text{AlR}_3]/[\text{TiCl}_4]$  ratio when  $[\text{AlR}_3]_o < [\text{TiCl}_4]_o$ , or on increasing the  $[\text{AlR}_3]/[\text{TiCl}_4]$  ratio when  $[\text{AlR}_3]_o > [\text{TiCl}_4]_o$ . There are 3 tables.

✓

Card 3/3

L 33526-66 EWT(m)/T/EWP(j) IJP(c) WW/RM

ACC NR: AP6015052

(A)

SOURCE CODE: UR/0190/66/0 9/005/0876/0881

AUTHOR: Kulevskaya, I. V.; Yeruslimskiy, B. L.; Mazurek, V. V.

ORG: Institute of Macromolecular Compounds, AN SSSR (Institut vysokomolekulyarnykh soyedineniy AN SSSR)

TITLE: Polymerization kinetics of the acrylonitrile under the effect of butylmagnesium chloride

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 5, 1966, 876-881

TOPIC TAGS: polymer, monomer, polymerization kinetics, acrylonitrile, ~~magnesium~~ chloride, toluene, MAGNESIUM COMPOUND

ABSTRACT: The kinetics of polymerization in the system acrylonitrile, toluene, and butylmagnesium chloride at -75C has been investigated. A mechanism of the polymerization process involving elementary stages through intermediate complexes was proposed. For the initial stage of polymerization, the first order of the catalyst and the second order of the monomer were shown. The molecular weight of the polymers exceeded 200,000. Orig. art. has: 7 figures, 9 formulas, and 1 table.

[NT]

SUB CODE: 07/ SUBM DATE: 13May65/ ORIG REF: 006/ OTH REF: 012

Card 1/1

UDC: 66.095.26+678.745

L 37546-66 EWT(m)/EWP(j)/T RM

ACC NR: AP6011237 (A) SOURCE CODE: UR/0413/66/000/006/0075/0075

INVENTOR: Yerusalimskiy, B. L.; Kulevskaya, I. V.; Kamalov, S. K.;  
Frenkel', S. Ya.

ORG: none

TITLE: Preparation of polyacrylonitrile. Class 39, No. 179925  
[announced by the Institute of High-Molecular Compounds, AN SSSR  
(Institut vysokomolekulyarnykh soyedineniy AN SSSR)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,  
no. 6, 1966, 75

TOPIC TAGS: polyacrylonitrile, acrylonitrile, polymerization

ABSTRACT: This Author Certificate introduces a method of preparing  
polyacrylonitrile by polymerization of acrylonitrile in a hydrocarbon  
solvent at about -75°C in the presence of organomagnesium catalysts.  
To extend the variety of organomagnesium catalysts, complexes of  
magnesium alkyl halides or magnesium alkyls with dimethylsulfoxide  
are suggested. [LD]

SUB CODE: 11,07/ SUBM DATE: 13Feb65.

Card 1/1 vmb

UDC: 678.745.32

YERUSALIMSKIY, B.L.; KULEVSKAYA, I.V.

Polymerization of acrylonitrile under the effect of organomagnesium compounds. Vysokom.sped. 7 no.1:184-185 Ja '65.

(MIRA 18:5)

KULEVSKIY, F.P.

The work of innovator Savrechkin's crew (Trust no.25). Strel.prod.moft.  
prem. 1 no.1:26-27 Mr '56. (MIRA 9:9)  
(Bricklaying)

*Kulevskiy, L.A.*

AID Nr. 97-13 20 May

**STUDY OF RUBY LASER AT LIQUID NITROGEN TEMPERATURE (USSR)**

Konyukhov, V. K., L. A. Kulevskiy, and A. M. Prokhorov. IN: Akademiya  
Nauk SSSR. Doklady, v. 149, no. 3, 21 Mar 1963, 571-572.

S/020/63/149/003/012/028

Spectral components of ruby laser emission corresponding to laser transitions to the  $\pm 1/2$  and  $\pm 3/2$  components of the ground state have been studied at 77.4°K. A light-pink ruby sample 6 mm in diameter and 60 mm long was used, with one end silver-coated and the other uncoated. The laser beam was passed through a Fabry-Perot interferometer with a 0.20-cm air gap into a long-focus camera, where it was either photographed on red-sensitive film or separated into the two components by a mask. In the latter case each component was detected separately by a photomultiplier, and the two signals were registered by a dual-beam oscillograph. Near the laser threshold only the  $\pm 3/2$  (short-wave) component was observed, the other appearing at higher pumping energies. The frequency difference of the two components, calculated from the interference pattern  $(0.36 \pm 0.03) \text{ cm}^{-1}$  agrees, within the experimental error, with a value calculated from the splitting of the  $\text{Cr}^{3+}$  ground state in the  $\text{Al}_2\text{O}_3$  lattice (the ground state being determined by EPR methods). It was determined

Card 1/2



AID Nr. 971-13 20 May

STUDY OF RUBY [Cont'd]

8/020/63/149/003/012/028

that the components carry different fractions of the output energy: near the threshold the short-wave component carries most of the energy, while the long-wave component increases to  $21 \pm 1\%$  of the short-wave component considerably above the threshold. The time variation of the two components was shown to be quite dissimilar. The short-wave component was generated in 0.5 to 0.8  $\mu$ sec, and its duration increased with increased pumping energy; the long-wave component was generated in 0.1 to 0.15  $\mu$  sec, and its duration decreased with increased pumping energy. [BB]

Card 2/2

KONYUKOV, V.K.; KULEVSKIY, L.A.; PROKHOROV, A.M.

Ruby-operated laser with a generation length of  $\sim 10$  msec.  
Zhur. eksp. i teor. fiz. 45 no.4:857-862 0 '63. (MIRA 16:11)

1. Fizicheskiy institut imeni P.N.Lebedeva AN SSSR.

KONYUKHOV, V.K.; KULEVSKIY, L.A.; PROKHOROV, A.M.

Internal oscillation types in a ruby laser. Dokl. AN SSSR 154  
no.5:1072-1074 F'64. (MIRA 17:2)

1. Fizicheskiy institut im. P.N. Lebedeva AN SSSR. 2. Chlen-  
korrespondent AN SSSR (for Prokhorov).

**"APPROVED FOR RELEASE: 08/23/2000**

**CIA-RDP86-00513R000927410015-2**

**APPROVED FOR RELEASE: 08/23/2000**

**CIA-RDP86-00513R000927410015-2"**

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**APPROVED FOR RELEASE: 08/23/2000**

**CIA-RDP86-00513R000927410015-2"**

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SESSION NR. AP4016504

5/0020/84/134/005/1012/1017

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APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000927410015-2"

KONYUKHOV, V.K.; KULEVSKIY, L.A.; PROKHOROV, A.M.; SOKOLOV, A.K.

Spectrum of a ruby optical maser with external spherical mirrors.  
Dokl. AN SSSR 158 no.4:824-826 O '64. (MIRA 17:11)

1. Fizicheskiy institut im. P.N. Lebedeva AN SSSR. 2. Chlen-korrespondent AN SSSR (for Prokhorov).

**"APPROVED FOR RELEASE: 08/23/2000**

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**APPROVED FOR RELEASE: 08/23/2000**

**CIA-RDP86-00513R000927410015-2"**

ACC NR: AP5026978 SGTB/IJP(c) WG/JD/WH SOURCE CODE: UR/0020/65/164/005/1012/1015  
 AUTHOR: Konyukhov, V. K.; Kulevskiy, L. A.; Prokhorov, A. M.  
 ORG: Physics Institute im. P. N. Lebedev, Academy of Sciences SSSR (Fizicheskii institut Akademii nauk SSSR)  
 TITLE: A cadmium sulfide laser using two-photon excitation from a ruby laser  
 SOURCE: AN SSSR. Doklady, v. 164, no. 5, 1965, 1012-1015  
 TOPIC TAGS: laser, semiconductor laser, nonlinear optics, two photon absorption  
 ABSTRACT: A CdS 5 x 3 x 3 mm laser forming a Fabry-Perot cavity was excited by focused radiation from a 50 Mw Q-switched ruby laser. The emission spectrum of CdS was investigated at flux densities of 20, 40, 200, and 500 Mw/cm<sup>2</sup> with laser action occurring at 500 Mw (see Fig. 1). In addition to considerable narrowing, an interference pattern was obtained and a beam directivity of ~10° above the threshold was observed. The oscillograph trace of CdS laser emission was of the same shape as that of the exciting light at all excitation levels; however, the duration of the bell-shaped trace was 50% shorter than that from the ruby laser. This was attributed to the fact that the power absorbed shows a quadratic dependence on the incident power. The two-photon coefficient of absorption of radiation at  $\lambda = 695 \mu$  was measured at 300K and found to be proportional to the flux density of incident radiation (0.2, 0.5, and 1.1 cm at flux densities of 10, 25, and 55 Mw, respectively). Using  
 Card 1/3 UDC: 535.89

L 9439-66

ACC NR: AP5026978

0

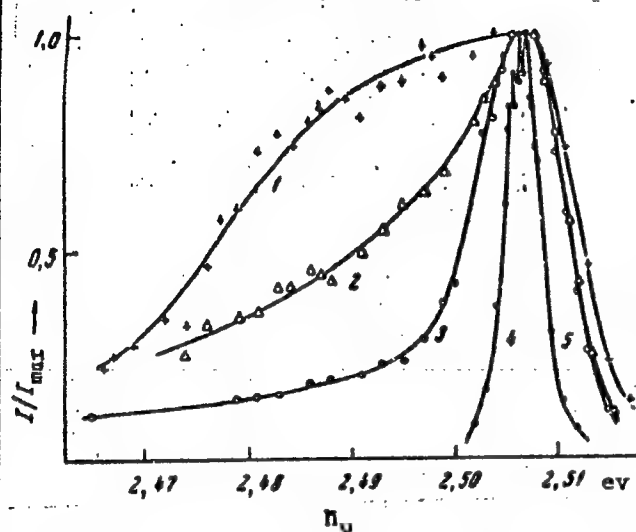


Fig. 1. The emission spectrum of CdS excited by a ruby laser

Flux density of: 1 - 20 Mw/cm<sup>2</sup>; 2 - 40 Mw/cm<sup>2</sup>; 3 - 200 Mw/cm<sup>2</sup>; 4 - 500 Mw/cm<sup>2</sup>. The radiation was polarized with E perpendicular to C.

the value of 10 cm<sup>-1</sup> for the two-photon coefficient of absorption at 500 Mw the hole electron pair creation was calculated to be 10<sup>27</sup>—10<sup>28</sup> pair/cm<sup>3</sup> sec. This is of the order of the magnitude of pair generation required to attain laser action in electron-beam-pumped CdS. Orig. art. has: 2 figures.

[CS]

Card 2/3

L 4404-00

ACC NR: AP5026978

SUB CODE: 20/ SUBM DATE: 11Aug65/ ORIG REF: 008/ OTH REF: 008/ 0  
ATD PRESS: 4/26

Card 3/3 *pu*

L 10949-66 FBD/ENT(L)/EMP(a)/ENT(m)/EEC(k)-2/T/EMP(L)/EMP(k)/EMP(L)/EMA(n)-2/EMA(h)  
ACC NR: AP6002423 SCIR/LJP(c) SOURCE CODE: UR/0020/65/165/005/1056/1058

WG/JD/WH

AUTHOR: Konyukhov, V. K.; Kulevskiy, L. A.; Kostin, V. V.; Murina, T. M.; Prokhorov, A. M. (Corresponding member AN SSSR)

ORG: Physics Institute im. P. N. Lebedev, Academy of Sciences, SSSR (Fizicheskiy institut Akademii nauk SSSR)

TITLE: A giant-pulse  $\text{CaF}_2:\text{Dy}^{2+}$  laser with continuous pumping

SOURCE: AN SSSR. Doklady, v. 165, no. 5, 1965, 1056-1058

TOPIC TAGS: giant pulse laser, dysprosium, calcium fluoride, xenon lamp, pumping

*calcium fluoride, crystal, laser pumping, laser beam, laser*

ABSTRACT: The generation of repeating giant pulses at  $2.36 \mu$  is reported in  $\text{CaF}_2:\text{Dy}^{2+}$  pumped continuously by xenon lamps. Such pulses were first achieved in  $\text{CaF}_2:\text{Dy}^{2+}$  by Ye. M. Zolotov, A. M. Prokhorov, and G. P. Shipulo (ZhETF, v. 49, no. 9, 720, 1965), who used ruby laser pumping. A similar method of generating giant pulses in  $\text{YAlG:Nd}$  was used by J. E. Gausic, M. L. Hensel, and R. G. Smith (Appl. Phys. Lett., 6, no. 9, 175, 1965). The laser system used in the present investigation (Fig. 1) consisted of a cylindrical dysprosium-doped calcium fluoride crystal 70 mm long and 7 mm in diameter with plane-parallel ends. The concentration of  $\text{Dy}^{2+}$  in  $\text{CaF}_2$  was  $\sim 10^{17} \text{ cm}^{-3}$ . The crystal was placed in a dewar, where it was cooled by circulating liquid nitrogen. The pumping was provided by two cw xenon lamps placed together with a dewar in a tight condenser. An internal multilayer dielectric mirror with a re-

Card 1/2

UDC: 535.89



L 10949-66

ACC NR: AP6002423

flectivity of approximately 100% was used on one end of the resonator, whose output was Q-switched by means of a rotating (50—500 cps) prism with total internal reflection. The laser beam was incident (at  $23^\circ$ ) at a plane-parallel quartz plate and directed at a calorimeter and a liquid-nitrogen-cooled InSb photodiode with a time-resolution of  $20 \cdot 10^{-9}$  sec. The time-dependent emission intensity was recorded by

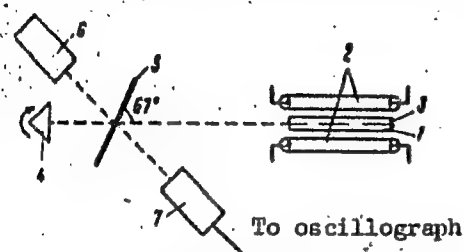


Fig. 1. Schematic of the laser system

1 -  $\text{CaF}_2:\text{Dy}^{2+}$  crystal; 2 - continuous pumping xenon lamps; 3 - multilayer dielectric mirror; 4 - rotating prism with total internal reflection; 5 - plane-parallel quartz plate; 6 - calorimeter; 7 - InSb photodiode.

means of an InSb photodiode and DEO-1 and SI-11 oscillographs. The mean intensity in both directions (see Fig. 1) was 0.05 w for both fixed and rotating (at 200 cps) prisms. This indicates that the rotation frequency of the prism was near optimal. The duration and repetition rate of the giant pulses were  $1.2 \times 10^{-7}$  sec (calculated value was  $1.05 \times 10^{-7}$ ) and 200 cps, respectively, resulting in a peak power of  $2 \times 10^3$  w. The proposed high-intensity laser can be used in studies of two-photon excitation of semiconductors with a narrow forbidden gap. Orig. art. has: 2 figures.

[YK]

SUB CODE: 20 SUBM DATE: 02Sep65/ ORIG REF: 003/ OTH REF: 005/ ATD PRESS: 4170  
Card 2/2

KAZAN, N.P., kand.veter. nauch. kandyd. N.P., veterinarnyy vrach

Use of propolis ointment in vaginitis and vestibulitis. Veterinariia  
37 no.1:53-54 Ja '60. (MIRA 10:6)

1. Kazanskiy nauchno-issledovatel'skiy veterinarnyy institut.  
(Propolis) (Vaginitis in cattle)

KULEYEV, F.T.

Malignant neoplasms in farm animals. Veterinaria 38 no.6:59 Ja  
'61. (MIRA 16:6)

1. Kazanskaya veterinarnaya poliklinika.  
(Cancer) (Veterinary medicine)

KULEY V, I. G.

Kuleyev, I. G. "Transitory operation of motors with special rotors", Izvestiya Tomskogo politekhn. in-ta im. Kirova, Vol. LXIV, Issue 1, 1948, p. 29-36

SO: U-4631, 16 Sept. 1953, (Letopis 'Zhurnal 'nykh Statey, No. 24, 1949)

KULEYEV, I. G.

Kuleyev, I. G. "A new method of reducing the curve of dependence of the moment on the number of windings in a shortcircuited [shunt-wound?] motor", Izvestiya Tomskogo politekhn. in-ta im. Kirova, Vol. LXIV, Issue 1, 1948, p. 37-39

SO: U-4631, 16 Sept. 53, (Lithopia 'Zhurnal 'nykh Statey, No. 24, 1949).

KULEYEV, M.T.

Stabilizing loess soils with carbamide resins. [Trudy] NIIOSP  
no.39:12-13 '60. (MIRA-14:1)  
(Loess) (Resins, Synthetic)

KULEYEV, M.T.

Some features of the process of stabilizing loess with carbamide  
resin mortars. Osn., fund.i mekh.grun. 3 no.6:15-17 '61.  
(MIRA 1534)

(Soil stabilization) (Urea derivatives) (Loess)

KULEYEV, M.T.

Strengthening loess soil with water solutions of carbamide  
resin in the field. [Trudy] NII osn. no. 50:10-14 '62.  
(MIRA 16:9)



L 1985-66 ENT(1)/EPA(s)-2/ENT(m)/EMP(w)/T EMP(t)/EM(b) LIP(c) JD/GG  
 ACCESSION NR: AP5019238 UR/0056/65/049/001/0248/0256  
 AUTHOR: Turov, Ye. A.; Kuleyev, V. G.  
 TITLE: On coupled oscillations of electronic and nuclear spins in antiferromagnets  
 SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 1, 1965, 248-256  
 TOPIC TAGS: antiferromagnetism, electron spin, nuclear spin, spin wave  
 ABSTRACT: The spectrum of coupled oscillations of electronic and nuclear spins (the coupling is due to hyperfine interaction) is calculated and studied in an antiferromagnet in which the axis of antiferromagnetism lies in a plane with small magnetic anisotropy. A mechanism is considered for the relaxation of the oscillations of the nuclear-like branch, which appears because of the hyperfine coupling when account is taken of damping in the electronic spin system. The microwave magnetic susceptibility of the whole spin system is calculated, and the amplification coefficient for nuclear magnetic resonance is found. The spatial dispersion of nuclear-like spin waves is studied, and it is pointed out that such waves can be excited by a uniform microwave field (nuclear spin-wave resonance). Orig. art. has: 1 figure and 37 formulas.

Card 1/2

L 1985-66

ACCESSION NR: AP5019238

ASSOCIATION: Institut fiziki metallov Akademii nauk SSSR (Institute of Metal  
Physics, Academy of Sciences, SSSR) *44.55*

SUBMITTED: 25 Jan 65

ENCL: 00

SUB CODE: NP, EM

NR REF SOV: 007

OTHER: 007

Card 2/2 *OP*

KULEZNEV, V. N.

69-20-1-7/20

AUTHORS: Dogadkin, B.A., Kuleznev, V.N., Tarasova, Z.N.

TITLE: Formation and Properties of Interpolymers of Natural and Butadiene-Styrene Rubbers (Polucheniye i svoystva mezhpolymerov natural'nogo i butadienstirol'nogo kauchukov)

PERIODICAL: Kolloidnyy Zhurnal, 1958, Vol. XX, # 1, pp 43-51 (USSR)

ABSTRACT: The coplastication of natural and butadiene-styrene rubbers by milling on a cold mill leads to the formation of an interpolymer containing 30% of the natural rubber introduced. The plastication was carried out on a specially constructed micro-mill in a hermetic casing. The milling was done in an atmosphere of purified nitrogen. The rubbers were preliminarily purified by hot acetone (natural rubber) or hot methanol (Butadiene-styrene rubber). The values for the characteristic viscosity and plasticity during milling are represented in figures 1 and 2. To prove the formation of an interpolymer during milling, several methods were used. In one, fractional precipitation, a selective precipitator had to be found; used was a binary mixture (1 : 4) of benzene-methylethylketone, in which

Card 1/4

69-20-1-7/20

Formation and Properties of Interpolymers of Natural and Butadiene Styrene Rubbers

butadiene-styrene rubber dissolves completely, whereas natural rubber does not dissolve. For comparison the milled polymers were also dissolved. The solution was then separated, evaporated, and the content of natural rubber determined by an Abbe refractometer. Fig. 3 shows that in case of separately milled polymers the natural rubber begins to dissolve after 40 min. For selective vulcanization, polychloro-compounds were used, which do not vulcanize natural rubber. As an activator, ZnO and PbO in two parallel experiments was employed. The results have shown that 20-26% of the introduced natural rubber is being bound during plastication. The characteristic viscosity depends on the ratio of the rubbers in the mixture. Fig. 5 shows, that the values for the viscosity of the jointly milled polymers are higher than the corresponding values of the separately milled polymers. The investigation of the physical-chemical properties of the vulcanizates shows that the mixtures of natural and butadiene-styrene rubbers have a higher resistance to aging than natural rubber alone. The resistance to breaking, relative stretching and deformation is also dependent on the composition

Card 2/4

69-20-1-7/20

Formation and Properties of Interpolymers of Natural and Butadiene Styrene Rubbers

of the mixture. An adhesive film made from interpolymers increases the binding strength between natural and butadiene - styrene rubbers when placed between them. It is supposed that the segments of the molecules of the natural rubber in the interpolymer, which are connected with the butadiene-styrene rubber by chemical bonds, penetrate easily into the natural rubber. The same is true for the segments of the butadiene-styrene rubber of the interpolymer, which penetrate into the butadiene-styrene rubber. The results of the tests for resistance of the connections by interpolymer adhesive films are shown in table 2.

There are 9 figures, 2 tables, and 7 references, 3 of which are Soviet, 4 English.

Card 3/4

69-20-1-7/20  
Formation and Properties of Interpolymers of Natural and Butadiene Styrene  
Rubbers

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni  
M.V. Lomonosova (Moscow Institute of Fine Chemical Technology  
imeni M.V. Lomonosov). Nauchno-issledovatel'skiy institut  
shinnoy promyshlennosti (Scientific Research Institute of  
the Tire Industry)

SUBMITTED: July 12, 1957

AVAILABLE: Library of Congress

Card 4/4

AUTHORS: Dogadkin, B.A., Kuleznev, V.N. SCV-69-20-5-21/23

TITLE: The Formation of a Gel in the Plastication of Natural Rubber and Its Effect on the Strength of Vulcanizates (Obrazovaniye gelya pri plastikatsii natural'nogo kauchuka i yego vliyaniye na prochnost' vulkanizatorov).

PERIODICAL: Kolloidnyy zhurnal, 1958, Vol XX, Nr 5, pp 674-675 (USSR)

ABSTRACT: Gel formation has been observed during the plastication of natural rubber. In the early stages of plastication (10 min), a gel forms amounting to a maximum of 20%. Further rolling causes a mechanical dispersion of this gel fraction. If the argon atmosphere contains more than 0.1% oxygen, the free radicals are stabilized and no gel is formed. In the absence of oxygen, ramified molecules appear which decrease

Card 1/2

SOV-69-20-5-21/23

The Formation of a Gel in the Plastication of Natural Rubber and Its Effect on the Strength of Vulcanizates

the rupture resistance of the rubber to  $20-40 \text{ kg/cm}^2$  in comparison to the usual values of  $200-250 \text{ kg/cm}^2$ . There is 1 graph and 4 references, 1 of which is Soviet and 3 English.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova (Moscow Institute of Fine Chemical Technology imeni M.V. Lomonosov)

SUBMITTED: June 10, 1958

1. Gels--Development 2. Rubber--Processing 3. Vulcanizates  
--Mechanical properties

Card 2/2



KULEZNEV, V. N., Candidate Chem Sci (diss) -- "The preparation and properties of inter-polymers of natural and budadiene-styrol rubbers". Moscow, 1959. 13 pp  
(Min Higher Educ USSR, Moscow Inst of Fine Chem Tech im M. V. Lomonosov), 150  
copies (KL, No 24, 1959, 128)

5(3)

SOV/69-21-2-9/22

AUTHORS: Dogadkin, B.A., Kuleznev, V.N., Pryakhina, S.F.

TITLE: On the Compatibility of Polymers in Solution (K voprosu o sovместимости полимеров в растворе)

PERIODICAL: Kolloidnyy zhurnal, 1959, Nr 2, pp 174-180 (USSR)

ABSTRACT: This is a report on an investigation concerning the behaviour of mixtures of natural and butadiene styrene rubber in a common solution. The experiments have shown that mixtures of 5% benzene solutions of natural and butadiene styrene rubber exfoliate, if these substances are mixed within the limits 1:9 and 9:1. The concentration of the laminae is not equal to the initial concentration. For any ratio of rubber mixtures, the experimental viscosity values are higher, whereas the turbidity of the solutions is lower than the additive magnitudes. The increase in temperature, or the introduction of large quantities of methyl ethyl ketone bring together the experimental and additive values of the viscosity of the solutions, i.e. they increase the compatibility of natural and butadiene

Card 1/2

304/69.21-2-9/22

On the Compatibility of Polymers in Solution

styrene rubber. The presence of an interpolymer in a natural and butadiene styrene rubber mixture prevents exfoliation of the solution. According to the authors the observed phenomena may be considered as the result of molecular associations of prevalently homogeneous composition. There are 5 graphs and 10 references, 6 of which are Soviet and 4 English.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im.M.V. Lomonosova (Moscow Institute of Fine Chemical Technology imeni M.V. Lomonosov)

SUBMITTED: May 9, 1958

Card 2/2

S/069/62/024/003/004/006  
B110/E138

AUTHORS: Kuleznev, V. N., Igoshcheva, K. M.

TITLE: Effect of various substances on the stability of mixed polymer solutions

PERIODICAL: Kolloidnyy zhurnal, v. 24, no. 3, 1962, 306 - 308

TEXT: An attempt was made to decelerate the separation of polymer mixtures by adding small amounts of polar substances. Solutions of the following technical, nonfractionated polymers were studied: block polystyrene and emulsion polymethyl methacrylate in cryoscopic benzene (polymer ratio=1:1), the mixtures of which separate at  $\gg 9\%$ . The following additives were used: Propyl, amyl, and ethyl alcohols, acetone, acetophenone, benzophenone, methyl-ethyl ketone, butyric, isobutyric and oleic acids, butyl acetate, benzyl acetate, methyl, ethyl, butyl, and isoamyl benzoates, aniline, dimethyl aniline, dichloro ethane, chlorobenzene, ethylene chlorohydrin, pyridine, and thiophen. Aniline, and ethylene chlorohydrin increased the optical density and accelerated the separation. In 10% solutions of mixtures (polystyrene : polymethyl methacrylate - 1:1) with 100 mole% substance per Card 1/2

Effect of various substances ...

S/069/62/024/003/004/006  
B110/B138

mole polymethyl methacrylate, the separation was only inhibited by dimethyl aniline and heptyl and amyl alcohols. Benzoic acid ester, pyridine, dichloro ethane, acetophenone, methyl-ethyl ketone, benzophenone, thiophen, and butyl acetate decelerated the separation (induction period: 8 - 40 hrs). Separation became faster with increasing optical density due to admixtures. No relation was found between the effect of additive and surface tension, dipole moment, the dielectric constant and the heat of vaporization. There are 3 figures and 1 table. ✓

ASSOCIATION: Ural'skiy gosudarstvennyy universitet im. A. M. Gor'kogo  
(Ural State University imeni A. M. Gor'kiy)

SUBMITTED: July 20, 1961

Card 2/2

S/069/62/024/005/010/010  
B117/B186

AUTHORS: Kuleznev, V. N., Dogadkin, B. A.

TITLE: Dependence of the mechanical properties of a polymer mixture on its composition

PERIODICAL: Kolloidnyy zhurnal, v. 24, no. 5, 1962, 632-633

TEXT: Experiments upon natural and butadiene styrene rubber have shown that the properties of specially prepared homogeneous mixtures of thermodynamically incompatible polymers are not of an additive nature. Whatever the technique of preparation (rolling in argon or mixing in air and gamma irradiation), intermediate polymers were formed in mixtures that had been vulcanized at 142°C under pressure. Curves showing the mechanical properties of 1:1 mixtures versus their composition were characterized by extreme values (increase in fatigue strength and decrease in ultimate strength). As such a mixture, wherein most of the macromolecules of one polymer are surrounded by the macromolecules of the other, does not form a crystalline phase when stretched, its ultimate strength is equal to or even lower than that of non-crystallizing rubber. The increase in dynamic

Card 1/2

Dependence of the mechanical ...

S/069/62/024/005/010/010  
B117/B186

strength has so far not been explained. There is 1 figure.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni  
M. V. Lomonosova (Moscow Institute of Fine Chemical  
Technology imeni M. V. Lomonosov)

SUBMITTED: May 22, 1962

Card 2/2

KULEZNEV, V.N.; ANDREYEVA, V.M.

Light scattering by solutions of polymer mixtures.  
Vysokom. soed. 4 no.12:1851-1857 D '62. (MIRA 15:12)

1. Ural'skiy gosudarstvennyy universitet imeni  
A.M. Gor'kogo.

(Polymers)  
(Light-Scattering)



KULEZNEV, V.N.; IGOSHEVA, K.M.

Densities of polymer mixtures. Vysokom. soed. 4  
no.12:1858-1862 D '62. (MIRA 15:12)

1. Ural'skiy gosudarstvennyy universitet imeni A.M. Gor'kogo.  
(Polymers)  
(Films (Chemistry)—Density)

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**CIA-RDP86-00513R000927410015-2"**

ACCESSION NR: AP4043129

S/0069/64/026/004/0475/0480

AUTHORS: Kuleznev, V.N.; Krokhina, L.S.; Lyakin, Yu.I.; Dogadkin, B.A.

TITLE: Investigation of the structure of solutions of polymer mixtures by the light scattering method

SOURCE: Kolloidnyy zhurnal, v. 26, no. 4, 1964, 475-480

TOPIC TAGS: light scattering, polystyrene polyisobutylene toluene system, refractive index, polymer association, apparent molecular weight, polystyrene, polystyrene association, asymmetry of light scattering, second virial coefficient, true solution, emulsion, colloid

ABSTRACT: This study of light scattering (at  $R_{45}^m$ ,  $R_0^m$ , and  $R_{135}^m$ ) in the polystyrene-polyisobutylene-toluene system in which the refractive indices of the polyisobutylene ( $M = 1.2 \times 10^6$ ) and toluene are equal provided new proof of the increased degree of association of one polymer upon the addition of a second polymer. Optical densities of the solutions illuminated with monochromatic light of 5460 and 4360A were measured on the FEKN-56 photoelectric nephelometer. The association of polystyrene, i.e., the apparent molecular

1/3

ACCESSION NR: AP4043129

weight, and the asymmetry of the scattering increased and the second virial coefficient diminished on addition of the optically invisible polyisobutylene. Quantitative measurements of the degree of association are possible only on double extrapolation of the light scattering to zero angle and zero concentration. On changing in concentration a mixture of two polymers may pass from a true solution to a rapidly separating emulsion via a stable intermediate colloid state. For a 1:1 mixture of polystyrene and polyisobutylene the true solution exists up to a concentration of 0.7 gm. of the mixed polymers per 100 ml. toluene, and the emulsion separates when the concentration exceeds about 1.2 gm./100 ml. "The authors sincerely thank V.E. Eskin for participation in evaluating the results and I.M. Bel'govsk for permitting work on the photoelectric nephelometer." Orig. art. has: 5 figures and 1 table.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova (Moscow Institute of Fine Chemical Technology)

Card 2/3

ACCESSION NR: AP4043129

SUBMITTED: 26Oct63

SUB CODE: OP, OC

ENCL: 00

NR REF SOV: 005

OTHER: 004

3/3

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numbers on curves - velocity of information  $\delta$  sec<sup>-1</sup>.  
- curve moving, its



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1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni  
Lomonosova.

L 33532-65 EWT(n)/EPF(o)/EMP(j)/T Pc-4/Pc-4 RM

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